

# Tuberculosis in Indiana, 2004

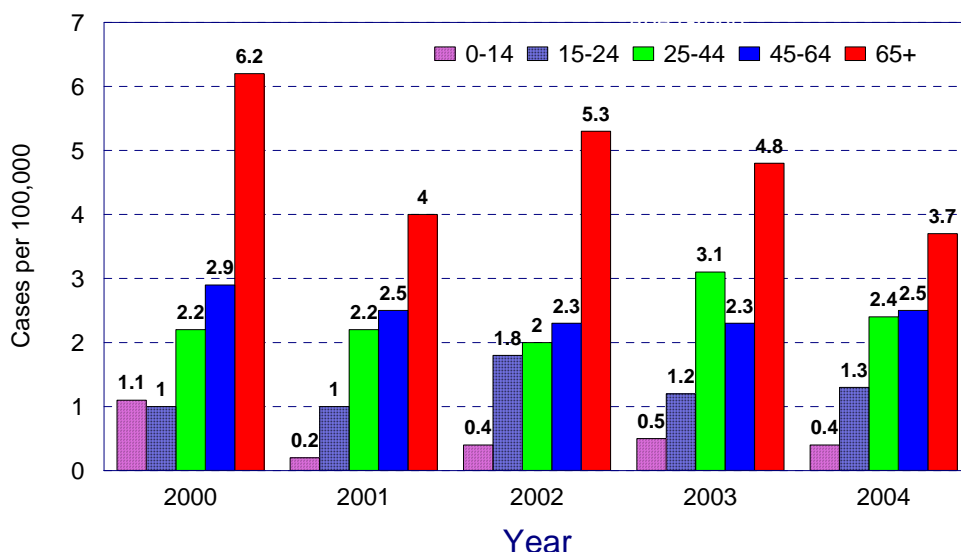
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ISDH TB Control Program

March 24 is World TB Day. It was on this day in 1882 that German microbiologist Robert Koch discovered *Mycobacterium tuberculosis*, the bacterium that causes tuberculosis (TB). Tuberculosis continues to be one of the deadliest diseases in the world, with 8 million new cases and 3 million deaths reported worldwide each year. Approximately 95 percent of TB cases occur in developing countries where there are few resources to ensure adequate treatment and where HIV infection is common. TB is the number one killer of AIDS patients in the world.

TB cases have declined dramatically since the early 1950s. Indiana cases increased in 2002 and 2003 but declined in 2004. During 2004, 128 new cases of TB were reported to the Indiana State Department of Health (ISDH) by 34 of the 92 counties. The three most populous counties accounted for 53% of all new cases. A TB outbreak continued in Allen County, where 22 new cases were reported in 2004. Eleven of those cases were linked either epidemiologically or through matching genotypes from positive cultures. The vast majority of those have successfully completed treatment. Long-term trends and new cases over the past 10 years are shown in Figures 1 and 2, respectively.

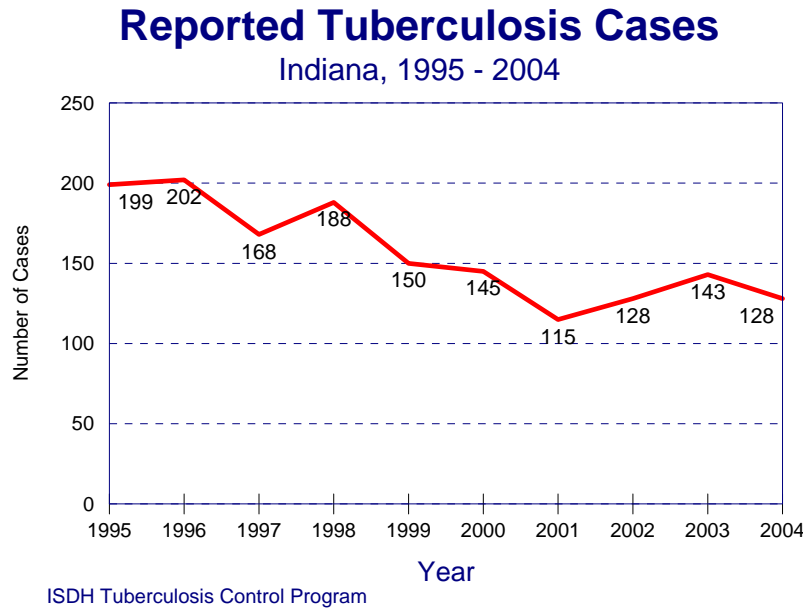
**Figure 1.**

## Tuberculosis Case Rates by Age Group 2000-2004



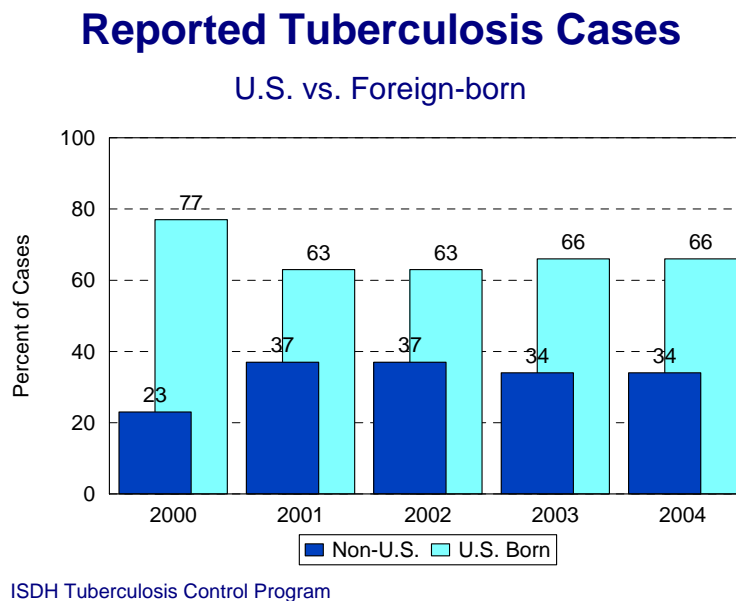
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**Figure 2.**



The majority of cases of TB disease develop in persons who were infected in the past. Approximately 10 percent of persons infected with TB will develop active disease at some point in their lives, but it is not possible to predict who will become ill or when. The foreign-born population continues to make up one-third of all of Indiana's new cases. Figure 3 shows the percentage of TB cases among the foreign-born versus U.S. born. Figure 4 shows the country of origin of the majority of foreign-born cases.

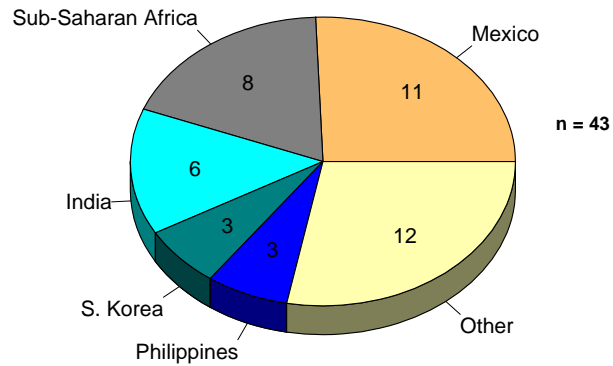
**Figure 3.**



**Figure 4.**

## Nationality of Non-U.S. Born TB Cases

Based on the Most Frequently Represented Countries and Regions in 2004



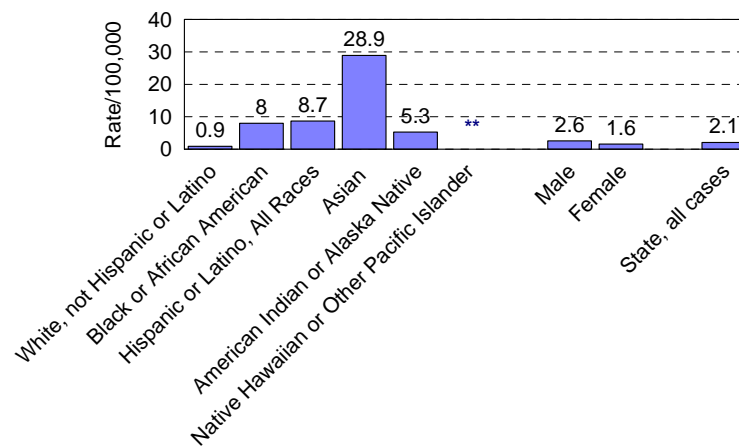
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TB case rates by race, ethnicity, and sex are shown in Figure 5. Case rates by age group are shown in Figure 6.

**Figure 5.**

## Tuberculosis by Race, Ethnicity, and Sex

Rate/100,000 for 2004

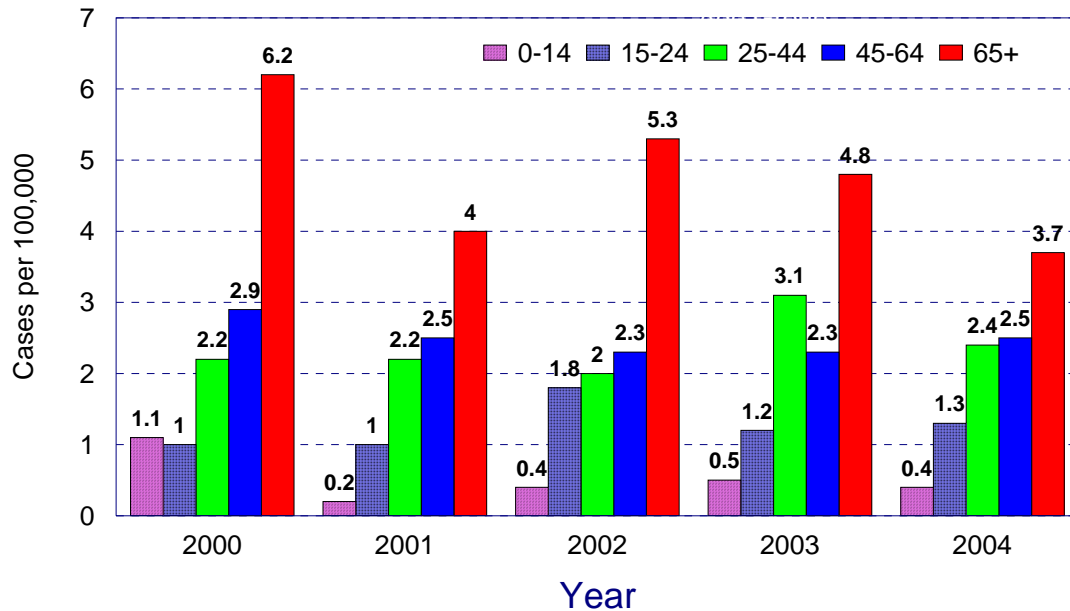


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\*\* None reported or statistically insignificant

Figure 6.

## Tuberculosis Case Rates by Age Group 2000-2004



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In December 2004, the U.S. Food and Drug Administration approved a new test for the detection of latent TB infection, QuantiFERON®-TB GOLD. This test replaces the first generation test that was approved for use in 2001. The ISDH issued guidelines and recommendations for its use in February 2005.

Maintaining the decline in new TB cases depends on the continued implementation of TB control core activities. The most important activity is the prompt identification and treatment of new TB cases and completion of therapy, followed by the identification and treatment of infected contacts and targeted testing and treatment of other persons likely to be infected. The last group includes persons born in countries where TB is common and persons belonging to socioeconomic groups who tend to live and socialize in settings where TB is transmitted. This group includes injection drug users, other substance abusers, and the homeless.

Finally, these activities are incorporated into a client-centered patient management system in which the local health department provides case management and physicians in private practice provide medical care. The ISDH TB Drug Program provides drugs at no cost to the patient. The ISDH Mycobacteriology Laboratory provides specimen processing, culture identification, and drug susceptibility testing at no cost to the patient or referring client laboratories. This integrated approach, combined with the use of directly observed therapy, helps to ensure that all TB patients are being managed appropriately and will complete treatment.

**References:**

1. Indiana State Department of Health Tuberculosis Information Management System Database.
  2. Institute of Medicine. *Ending Neglect: The Elimination of Tuberculosis in the United States*. 2000.
  3. Indiana State Department of Health. "Guidelines and Recommendations on the Use of QuantiFERON<sup>®</sup>-TB for the Diagnosis of Latent Tuberculosis Infection."
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